

Public Lands Profile: Big Hammock



A Land of Dramatic Contrasts

Across its 800 acres, Big Hammock Natural Area showcases a fascinating diversity of natural communities of the Lower Atlantic Coastal Plain. For this reason, it was secured by the State of Georgia in 1973, and in 1976 was designated a National Natural Landmark. Despite past harvest of the native longleaf pine and extensive livestock grazing, significant habitat for rare plant and animal species remains intact.

A hammock is a rise in elevation of an otherwise flat landscape. Big Hammock Natural Area is dominated by an ancient sand dune that rises from the Altamaha River floodplain to 100 feet above sea level. Between 15,000 to 30,000 years ago, water levels of the Altamaha River fluctuated more than they do now. The river was composed of many smaller braided channels in a sandy bed. During times of drought, the sands would be exposed and transported by dominant winds to the northeast side of the river, forming the dunes that remain today. Similar riverine dunes are occasional throughout Georgia's Atlantic Coastal Plain on other rivers, such as the Ochopee and the Ocmulgee, and form a unique part of Georgia's landscape.

It is this sand dune which underlies the natural diversity of Big Hammock NA. The ancient topography causes extreme environmental conditions that morph the vegetation into dramatic contrasts.

Evergreen hardwood forest dominates the deep sands of the hammock. Natural fire is suppressed by the Altamaha River on the south side, encouraging the persistence of this fire-intolerant forest type. A canopy of live oak (*Quercus virginiana*) and darlington oak (*Q. hemisphaerica*) is interspersed with southern magnolia (*Magnolia grandiflora*).

Beneath the canopy is the largest known population of Georgia Plume (*Elliottia racemosa*), a small tree that puts on a show in June with sprays of beautiful white flowers. Georgia Plume is state-protected, and Georgia is the only place it occurs in the world. Overall, Georgia Plume has more than 50 documented occurrences; however, most are in decline and only 9 are protected. Seedlings of this species have not been observed in the wild. This may be due to some combination of low population genetic diversity and habitat fragmentation. Clonal reproduction is common.

Also of interest is the most extensive inland population of the shrubby myrtle oak (*Quercus myrtifolia*) in Georgia. This oak thrives on the hammock, even though it is most typical on the sand dunes of the coast. It shares space with thickets of farkleberry (*Vaccinium arboreum*), holly (*Ilex opaca*), devilwood (*Osmanthus americanus*), red bay (*Persea borbonia*), horsesugar (*Symplocos tinctoria*), deerberry (*Vaccinium stamineum*), and witchhazel (*Hamamelis virginiana*). In this closed forest, listen for evidence of songbirds, gray squirrels, deer, and armadillo seeking shelter and food.

Xeric longleaf pine/oak sandhill scrub forest is represented on the portions of the hammock that are adjacent to pine flatwoods. Historically, naturally occurring fire would sweep across the extensive flatwoods landscape and from there burn onto Big Hammock, selecting for this fire-adapted community. Old-growth longleaf pine forms the sparse canopy; a few are likely 200 years old. There is a diverse suite of oaks in the shrub layers: sand post oak (*Quercus margarettae*), myrtle oak (*Q. myrtifolia*), turkey oak (*Q. laevis*), and sand live oak (*Q. geminata*) are characteristic. Despite the lack of a tall hardwood canopy, Georgia Plume is still abundant in the oak scrub community.

The extremely dry conditions of this community cause wide swaths of open sands to persist among the scrub oaks. These microhabitats are essential to maintaining the biodiversity of Big Hammock. Here, herbaceous plants are able to germinate and persist. Catch glimpses of the tansy-colored woody goldenrod (*Chrysoma paucifloculosa*)—a plant typical of the Florida coast—flowers in autumn, against a backdrop of golden grasses and pink dicerandra mints.

Several representatives of Georgia's rare herpetofauna depend on these open patches. The State Reptile of Georgia, the Gopher Tortoise, burrows here and depends on the herbaceous plants for food. The Gopher Tortoise is a large terrestrial turtle that digs deep shelters in sandy soils. These burrows are used by many

other species of wildlife, including the federally endangered Eastern Indigo Snake that also occurs at Big Hammock NA. Other unusual reptiles documented from Big Hammock that depend on open woodlands are the Southern Hognose Snake, Eastern Coral Snake and the Eastern Diamondback Rattlesnake.

Longleaf harvest and fire suppression have changed the ecology of the hammock. Because longleaf pine depends on fire for regeneration, few young longleaf will be seen at Big Hammock and the scrub oak are becoming more dense. With increasing habitat homogeneity, species that depend on unique microsites will decline. Therefore, the primary focus of management at Big Hammock to restore the natural fire ecology. Controlled burns are an essential tool for conserving and enhancing the biodiversity of this site.

For visitors, a nature trail traverses the high hammock and gives an opportunity to experience the diversity of Big Hammock. One can walk through gnarled evergreen forests dwarfed by the xeric (dry) infertile sands. In open areas, old-growth longleaf pine radiates the sun. Descend the hammock into low pine flatwoods, which edge deep cypress-tupelo swamps fed by tributaries of the powerful Altamaha River, less than two miles away. Catch the fresh spring green of lichens and turkey oak, early-summer blooms of Georgia Plume, or the brilliant show of golden grasses and wildflowers in autumn. Visiting Big Hammock NA is a magical experience.

